A New Form of Asplenium montanum from New York

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On the Shawangunk Mountain ridge in Ulster County, New York, on September 18, 1973, I discovered 60 fronds of an unusual *Asplenium* growing in a fissure on a vertical cliff of Silurian conglomerate.

Asplenium montanum Willd. is abundant on these cliffs. I have observed numerous living plants of *Asplenium montanum* in Ulster County, New York, in seven counties in North Carolina, and I have seen herbarium specimens at the New York Botanical Garden (NY). All specimens were found to be uniform in morphology, and more than 99 per cent of the fronds bore sori. There are no described forms or varieties of this species.

The new form (*Fig. 1*) differs from the typical form in the following characters: (1) blades light yellow-green instead of dark blue-green, (2) tip of frond not tapered to a lobed apex (*Fig. 2A* versus *3A*), (3) pinnae and ultimate divisions more dissected (*Fig. 2B* versus *3B*), (4) frond length averages 2.3 cm shorter than typical New York specimens, and (5) the absence of sori. The possibility of ecological variation is minimal, as plants of the typical species grow on the same cliffs and even on both sides of the new taxon in the same rock fissure. These differences warrant naming this a new form of *Asplenium montanum*.

Asplenium montanum f. shawangunkense Reeves, f. nov.

Ab *Asplenio montano* f. *montano* lamina flavo-virenti sterili, apice non lobato, et pinnis lobisque incisioribus differt.

HOLOTYPE: Between Lake Minnewaska and Mohonk Lake in the Shawangunk Mountains, Ulster County, New York; in fissure on vertical cliff in deciduous woods; ca. 1170 ft, 18 Oct 1973, *Reeves 500* (ASU; isotypes MICH, NY).

The possibility that *A. montanum* f. *shawangunkense* might be a different species or of hybrid origin was investigated using paper chromatography, following the methods of Smith and Levin (Amer. J. Bot. **50**: 952–958. 1963). To compare my results with theirs, I prepared chromatograms from dried herbarium specimens of *Asplenium rhizophyllum* L., *A. platyneuron* (L.) Oakes, and *A. bradleyi* D. C. Eaton, as well as of *A. montanum*. All chromatograms I obtained were similar to those reported by Smith and Levin. The chromatograms of *A. montanum* from one New York and two North Carolina localities were indistinguishable from those of the new form. This strongly suggests that this form is not another species or of interspecific hybrid origin.

Apparently there are parallel situations occurring in other species (W. H. Wagner, Jr., pers. comm.): *Asplenium platyneuron* (L.) Oakes ex D. C. Eaton f. *hortonae* (Davenp.) L. B. Smith, *Polypodium vulgare* L. f. *cambricum* (L.) Broun, and *P. virginianum* L. f. *cambricoides* F. W. Gray, which are sterile and more finely dissected than their respective typical forms.

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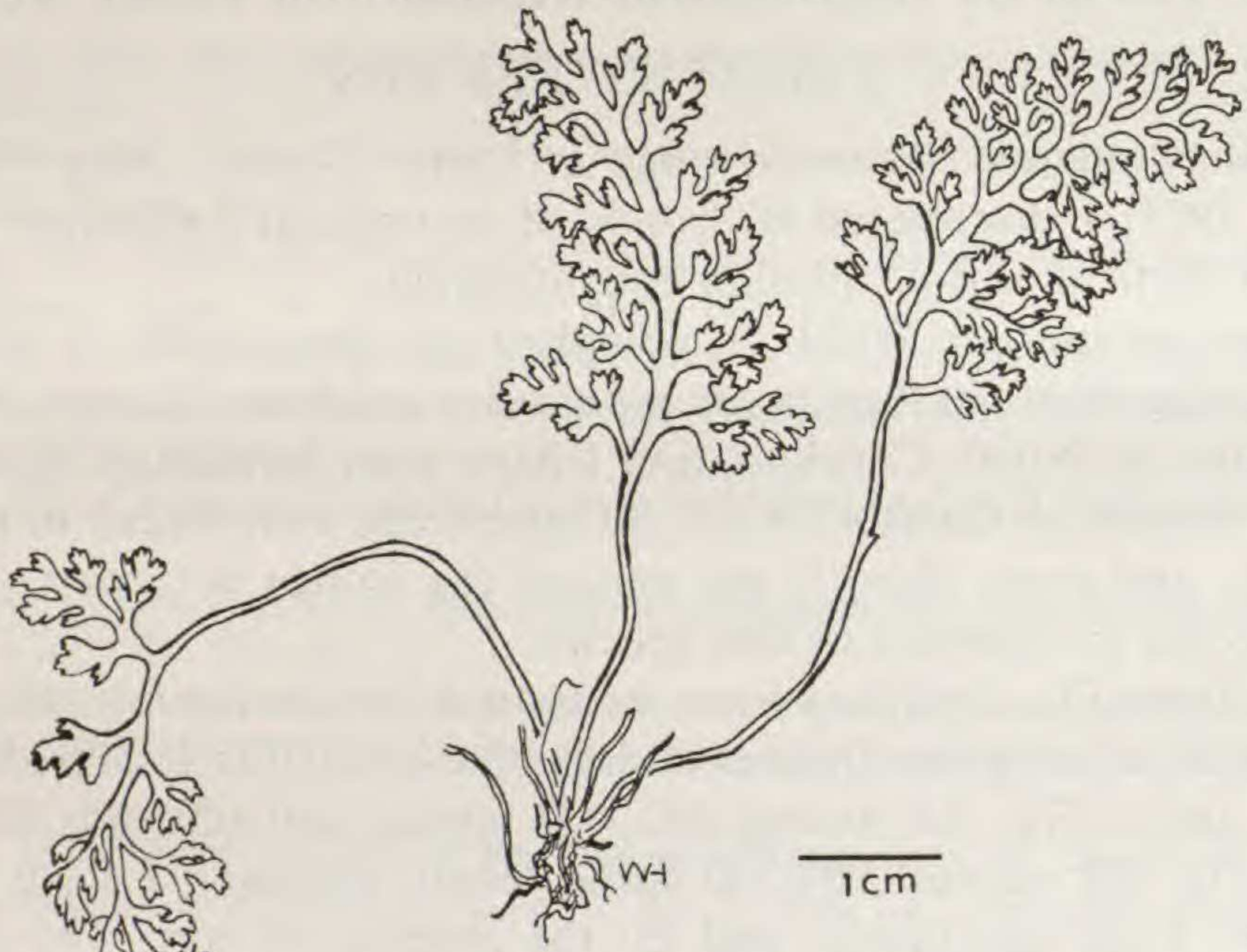
1



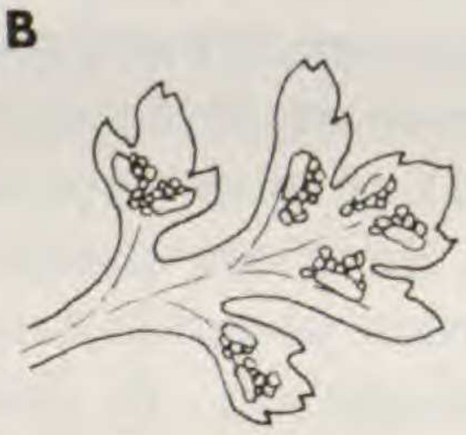
2A

2B

5mm

3A

3B



FIGS. 1, 2. *Asplenium montanum* f. *shawangunkense*. FIG. 1. Holotype specimen. FIG. 2A. Frond apex. FIG. 2B. Basal pinna. FIG. 3. *Asplenium montanum* f. *montanum*. FIG. 3A. Frond apex. FIG. 3B. Basal pinna.